No. 3 - New Jamaican and Cuban Millipeds, with Notes on Sexeral Other Species

By H. F. Loomis

Bureau of Plant Industry
U. S. Department of Agriculture

The millipeds dealt with in this paper were received for identification from the Museum of Comparative Zoölogy, Cambridge, Massachusetts. Two of the species were collected in Jamaica by Dr. P. J. Darlington, and seven species were collected at Soledad, Cuba in 1932 by Dr. Marston Bates and Mr. Graham B. Fairchild, using a Berlese funnel. It appears that both of the Jamaican species and four of those from Cuba are new to science, and descriptions of these species, with notes on the other species and on closely related forms, are presented in the following pages.

Of especial interest in the Cuban collection was a specimen belonging in the family Sphaeriodesmidae, a Central American family never before reported from the West Indies, although it was subsequently discovered that a species from the Isle of Pines and another from Jamaica, attributed to the family Cyclodesmidae, actually were of the Sphaeriodesmidae. The Soledad specimen is referable to the former species.

Noteworthy additions to the Cuban fauna are Docodesmus cubensis, the initial representative of the genus in the island; and Siphonophora senaria, the smallest member of what is rapidly becoming a large tropical American genus.

## Family SIPHONOPHORIDAE

## Siphonophora senaria new species

Three males and three females collected with a Berlese funnel from "Forest floor," Soledad, Cuba, July 1932 by M. Bates and G. B. Fairchild.

Diagnosis. This is the smallest member of the genus and has fewer segments. The short, deceptively jointed, antennae are a structural peculiarity of the species.

Description. Body small, relatively broad, the largest specimen is a female only 6.2 mm . long and .5 mm . wide. Number of segments from 33 to 37 . Color creamy white.

Dorsum flattened, densely hairy, with faintly evident lateral carinae bearing the pores.

Head pyriform, narrow, not over half the width of the second segment (Fig. 1); beak about half as long as the remainder of the head, slightly deflexed; antennae short and stout and quite unusual in that they appear to have only six joints, for without great care the first joint cannot be seen, as it is almost entirely concealed within the antennal socket and may only be seen in lateral view, hence, the second joint may easily be mistaken for joint 1 ; joint 3 is definitely longer than joint 2 , apparently a unique condition, for with species where the antennae are described or figured the second joint is the longer (Fig. 2).
First segment with the rounded sides converging anteriorly, the front margin deeply, angularly, emarginate; median length of the dorsum nearly three times that of the second segment.

Sides of the body parallel to the antepenultimate segment where they converge rapidly to the small last segment.

Gonopods quite similar in general structure to those of S. progressor Chamberlin, from Central America.

This species probably is quite closely related to S. cubana Karsch, the only previously recorded species of the genus in Cuba, but several differences are evident; the size is smaller, the length of segment 1 is greater in comparison with segment 2 ; and it is quite probable that there are fewer segments although Karsch did not designate the number of segments for his species. No definite locality was given for S. cubana, and it has not been rediscovered since the original description appeared, although this is not an unusual circumstance for a small Cuban milliped, when many much larger ones have been collected only once, and it is certain that there are a great many undiscovered species of all sizes in the island.

## Family STEMMIULIDAE

## Prostemmulus alveatus new species

Two fragments of a male in a bottle of millipeds from Soledad, Cuba, collected by M. Bates and G. B. Fairchild in July 1932 with a Berlese funnel. One fragment consists of the head and fifteen segments, the other fragment is composed of nine segments from the middle of the body.

Diagnosis. In external characters this species is distinguished by its markings; the strongly impressed dorsal striae; and the coarse ser-
rations along the ventral, posterior, margin of the segments. It appears to be quite close to $P$. nesides Chamberlin, from the Isle of Pines, but the dark head distinguishes it. The gonopods denote relationship with such Haitian species as interruptus, subulatus, etc., but show evident differences. It is to be regretted that nesides was founded on a female, for its relationship to the other species cannot be definitely known until males from the type locality are studied.

Description. Length of body unknown; width 1.5 mm .
In color the head is quite dark, in contrast to the first four segments, which are pinkish in alcohol, thereafter the anterior two-thirds of the segments is mostly dark with a narrow colorless median line, laterad of which the surface is dark for a short distance, then there is a mottled area surrounding the pore; below this area the sides are dark with light spots half way to the feet; ventral portion of the segments light colored or colorless; entire posterior third of the segments colorless.

Head without an impressed median sulcus on the vertex. Lower ocellus half as large as the upper one. Antennae with joint 2 longest; joint 3 next in length; joints 4 and 5 subequal, each half again as long as joint 6 .

First segment with a furrow along the anterior margin extending from well above the upper ocellus around to the posterior margin. There are three short striae below this marginal furrow but none above it.

Body slightly constricted at segments 4 and 5 . Ventral striae extending onto the dorsum at about segment 9 , the striae more strongly impressed on the dorsum than in most other species; serrations along the lower posterior margin of the segments coarser than usual.

Male with the pleurae of the third segment slightly raised but not obscuring the pleural lobes of segment 4, the posterior corner of each broadly rounded. Pleura on each side of segment 4 produced and elevated into a rather narrow, triangular, lobe.

Gonopods as shown in figures 3 and 4.

## Family EPINANNOLENIDAE

## Epinannolene cubensis (Bollman)

Nannolene cubensis Bollman, Proc. U. S. Nat. Mus., 11, p. 335, 1888.
Two young female specimens collected at Soledad, (Vilche's Potrero) Cuba, July 3, 1932 by M. Bates and G. B. Fairchild.

## Family SPIROBOLIDAE

## Rhinocricus cingendus new species

One male collected from Main Ridge, Blue Mts., Jamaica, 50007000 feet elevation, Aug. 17-19, 1934 by P. J. Darlington.

Diagnosis. This species is associated with R. sabulosus Pocock but has a solid dark band encircling the middle of each segment; the anal segment ends in an acute angle; and the gonopods are distinctive.

Description. Length 20 mm ., width 2 mm .; number of segments 41 .
Head bicolored, a thin dark line connects the eyes and from its middle a broad dark band descends over the front between the antennae and expands on either side along the posterior part of the clypeal region; clypeal region light colored; between the frontal dark band and the antenna on either side is a large reniform light area marked with fine dark reticulations; above the line connecting the cyes the vertex is similarly reticulated on a light ground. First segment with the anterior third solidly dark, the posterior two-thirds with a transverse maculate area on each side of the dark median line, posterior margin dark. Ensuing segments with the forebelt dark at middle and on the sides, the area adjacent to each scobina, and for a short distance below it, colorless; midbelt solidly dark on the dorsum. maculate with light on the sides; hindbelt colorless, transparent, the dark markings of the forebelt of the succeeding segment showing through it; last segment and preanal scale dark but the pigmentation irregular; anal valves uncolored.

Head with the antennae short and stout; labral pores two on each side; ocelli $6,7,7,5,2$, counting from the back of the head.

First segment broadly rounded on the sides; with a fine raised rim extending nearly to the lower corner of the eye.

Second segment with a raised rim in front, below the first segment.
On the succeeding segments the transverse suture between the midbelt and hindbelt is impressed very lightly on the dorsum of only a few of the anterior segments and is not present on any segment thereafter; across the middle of the dorsum above the pores the segment is crossed by a somewhat irregular but strongly impressed sulcus, behind which are a few short, oblique, impressed lines; on the segments approaching the middle of the body these short lines become fewer but the sulcus sometimes is doubled for much of its length; the pores are followed by an impressed line; surface of the segments finely reticulated but shining.

Last segment rather long, ending in a slightly produced, acute apex which does not extend beyond the valves. Anal valves smooth, evenly but not greatly inflated, the margins meeting in a reentrant angle. Preanal scale nearly twice as broad as long, triangular, the lateral margins straight throughout their length to the acute apex.

Gonopods as shown in figures 5 and 6 .
Ventral margin of the seventh segment raised into a high, thin crest behind the gonopods with its anterior face excavated to receive their tips.

Third pair of male legs with the coxae produced into rounded lobes; other legs not modified except to have an inflated pad beneath the outer joint.

## Family CYClodesmidae

## Cyclodesmus irretitus new species

One mature male and several immature specimens collected with a Berlese funnel from "Forest floor" Soledad, Cuba, July 1932 by M. Bates and G. B. Fairchild.

Diagnosis. Apparently closest to the Haitian C. nudatus Loomis but the gonopods differ, being slightly more curved and of somewhat different shape.

Description. Length of male 8 mm ., width 2.3 mm .
Surface shining, but faintly rugose as if the animals had been dried as they may have been.

Head with the furrow of the vertex terminating considerably above the level of the antennae. Antennae with joints 2 to 5 equal in length, joint 6 slightly longer; the antennae separated by a distance about equal to the diameter of one of the sockets. Lateral margin of the head continuous, slightly emarginate just behind the anterior corner, the margin with a distinct raised rim to near the anterior corner.

First segment more than twice as wide as long, the anterior margin broadly and evenly concave, paralleling the evenly convex posterior margin; anterior margin with a pronounced rim extending around the broadly rounded front corners; median surface slightly depressed.

Second segment with the lateral angles narrowly produced but failing to reach opposite the anterior angles of segment 1 .

Third segment of the usual form, the anterior rim broad and strongly raised, followed by a pronounced channel.

Fourth segment with the lateral carinae narrowed and ending in a rather acute angle; posterior margin with a tiny nick or indentation just above the angle.

Ensuing segments not noticeably different from those of the species with posterior margins of the segments simple, not incised. First and second segment and some of those thereafter with a few dorsal hairs so irregularly placed that their distribution indicates they are all that remain of a larger number, most of which have been lost.

Gonopods as shown in figures 7 and 8.
Coxae of the four pairs of legs immediately preceding the gonopods, and the two pairs succeeding them, with a slight, rounded prominence at the apex on the inner side.

Sternum between the eighth legs of the male very narrow, less than half the diameter of one of the leg sockets.

It seems quite likely that dorsal hairs are more common in the species of this genus than has been supposed but, because these hairs are so small or so easily lost, they usually have escaped notice. Examination of carefully collected specimens might show that the possession of at least a few dorsal hairs was the rule in most of the species if not in all of them.
C. irretitus is the first member of the family to be found in Cuba, as a species previously described from the Isle of Pines, and naturally included in the Cuban fauna, was incorrectly referred to the Cyclodesmidae.

## Family SPHAERIODESMIDAE

It was with considerable surprise that fragments of a species of Sphaeriodesmus were found in one of the bottles of millipeds from Soledad, Cuba, as the family Sphaeriodesmidae had not been previously recognized as part of the West Indian fauna. In the same bottle were specimens of a species of Cyclodesmus, to which genus the fragments were, at first glance, thought to belong, but closer scrutiny showed the error of this assumption.

In studying the specimens of Cyclodesmus they were compared with the description and illustrations of $C$. pinetorum Chamberlin, the only member of the family attributed to Cuba. It was observed that the illustrations of the gonopods and the segments at the anterior end of the body of pinetorum bore much closer resemblance to species of Sphacriodesmus than to Cyclodesmus, and to settle the point the para-
type specimens of $C$. pinetorum and $C$. bruesi, the latter a Jamaican species said to be closely related and with quite similar gonopods, were secured from the Museum of Comparative Zoölogy for examination. This examination showed that both species belong in the genus Sphaeriodesmus and that the statements pertaining to segments 3 and 4 in the original descriptions of these species actually referred to segments 4 and 5 respectively. Furthermore, in the illustration of the "First five tergites, lateral view" of $C$. pinetorum, scarcely any of segment 1 is to be seen, segments 2 to 6 being emphasized. In none of the paratype specimens of $C$. pinctorum is the shape of the lateral keels as shown in this illustration, segment 4 having an acute posterior angle and segment 5 with the anterior half of the outer margin excised.

## Sphaeriodesmus pinetorum (Chamberlin)

Cyclodesmus pinetorum Chamberlin, Proc. U. S. Nat. Mus., 61, Art 10, pp: 16-17, illus., 1922.
The head and first ten segments and the last six segments of a male found in bottle with other millipeds collected with a Berlese funnel from "Forest floor" Soledad, Cuba, July 1932 by M. Bates and G. B. Fairchild.

In direct comparison with paratype specimens no differences were noted except the somewhat smaller size of the Soledad male. As this species was described as a member of the genus Cyclodesmus the following description has been prepared.

Description. The length of the complete male probably was about 9 mm ., the width is 2.8 mm .

Vertex of the head distinctly furrowed at middle, the furrow lacking considerable of reaching opposite the antennae which are separated by a distance greater than the diameter of one of the sockets; joints 2 to 5 subequal in length; joint 6 distinctly longer.

First segment semi-elliptical, longer than a semi-circle; the anterior margin straight; posterior margin evenly rounded throughout; lateral angles broadly rounded.
Second and third segments sub-crescentic; the latter with the lateral keels much longer, thickened, and curving downward and backward.

Fourth segment larger than any other, the keels only faintly expanded forward in front, curved slightly caudad, ending in an acute angle.

Fifth segment with the anterior half of the outer margin of the carinae cut away, the excision receiving the posterior angle of the
carinae of segment 4 when the body is rolled into a ball; posterior anglebroadly rounded.

The first five segments are shown in lateral view in figure 9 .
Segments 6,7 , and 8 with the carinae outwardly rounded; on succeeding segments the outer margin of the carinae is lengthened and on segments 16 to 19 the posterior corners are produced into short but very acute teeth (Fig. 10).

Anterior male legs without secondary sexual specializations.
Coxae of the eighth male legs separated by a distance greater than the transverse diameter of a leg socket.

## Sphaeriodesmus bruesi (Chamberlin)

Cyclodesmus bruesi Chamberlin, Bull. Mus. Comp. Zoöl., 62, p. 215, 1918. Locality. Liguanea Plain, Jamaica.

The West Indian milliped fauna has few close connections with that of Central America, and none so direct or evident as that involving Sphaeriodesmus pinetorum and $S$. bruesi. The genus is typically Central American and the extenson of species into Cuba and Jamaica probably took place by migration from Yucatan across what is now the Yucatan Channel to Cuba, and thence to Jamaica, rather than by separate migrations from Yueatan to Cuba and Jamaica, as in the latter case a very much greater distance of what is now open water would need to have been traversed. Land connection between Yucatan and Cuba must have existed at one time, but the paucity of millipeds of Central American origin in Cuba would lead one to believe that such connection was maintained for a relatively short while.

## Family CHELODESMIDAE

## Caraibodesmus criniger new species

A male and female collected from Main Ridge, Blue Mts., Jamaica, 5000-7000 feet elevation, Aug. 17-19, 1934 by P. J. Darlington.

Diagnosis. The narrow first segment and the densely hairy dorsum unmistakably mark this species.

Deseription. Length of male 20 mm . female somewhat longer and a little stouter; body strongly convex, tuberculate, and hairy; carinae rather small, projecting slightly from well below the level of the dorsum.

Color of the dorsum chestnut brown, except the outer posterior corners of the non-poriferous segments and the entire poriferous calluses of the other segments which are colorless; the lower sides and ventral surfaces are partly colorless; the legs colorless at base, distally light brown.

Head with fine erect setae scattered over it except on the posteriorpart of the vertex; vertex with a deep median furrow.

First segment nearly semi-circular, narrower than the head (Fig. 11); surface almost smooth, slightly irregular, shining, with a few scattered erect hairs; a single large hair projects outward from the margin a little in advance of each posterior corner; posterior corners right angled or even a little produced backward.

Second segment with a few broad, indistinct, tubercles scattered over the surface, each tubercle surmounted by an erect seta; outer margin of each carina with three distinct teeth in advance of the sharp, posteriorly produced, hind corner. Posterior margin of segment with an acute projecting tooth mesad of the base of the carina and a still smaller tooth mesad of it.

On the next two segments the setiferous tubercles become more distinct, and beginning with segment 5 they decrease in size but increase in numbers, so that on the posterior half of the body the dorsum is very densely and finely granular-tuberculate and is densely hispid. The segments are crossed transversely at middle by an indistinct, shallow, depression. The teeth of the posterior margin decrease in size after the first few segments and are not present on the last half dozen segments. Non-poriferous segments with the outer margin of the carinae toothed as in segment 2 ; other segments with two teeth in front of the pore callus; pores opening outward, the callus occupying half the margin of the carina; sides of the segments, below the carinae, smooth and shining; segments 2 to $S$ or 9 with a gramular ridge just above the legs; lateral carinae of segments 17,18 , and 19 decreasing in prominence, those of segment 19 inconspicuous and with the posterior corners scarcely produced. Last segment devoid of tubercles, in striking contrast to the preceding segments, and while no setae remain it appears that there had once been two transverse rows of two to four setae.

Legs with the two basal joints sparsely hairy, the third joint much more hairy, and the remaining joints still more densely hairy. Malelegs without special modifications.

Gonopods as shown in figure 12.

## Family CHYTODESMIDAE

The genus Docodesmus is more widely represented in the West Indies than any other of the order Merocheta, indeed in all the other orders it is equalled or surpassed in wide distribution by only three genera-Rhinocricus, Orthoporis, and Siphonophora. At present nine species of Docodesmus have been found in seven West Indian islands, beginning with Trinidad and extending northward to New Providence in the Bahamas, and westward to Cuba, where recently a species was found which is here described as new. Only one species has a range extending beyond the limits of the island where it was discovered, D. trinidadensis being found on the island of Tobago as well as adjacent Trinidad. At least one other species has been reported from northern South America and it appears that other species may have been described under other genera but a study of these forms is beyond the scope of the present paper.

Specimens of all the West Indian species, with one exception, have been examined by the writer, and a key for their separation and recognition has been prepared. Specimens of the genotype, D. vincenti (Pocock) were not seen but characters applying to no other species are given in the original description, and made inspection less necessary.

## Key to the West Indian Species of Docodesmus

Body less than four times as long as broad; dorsum irregularly tuberculate and not divided into definite subquadrate areas.....
robustus Loomis
Body four or five times as long as broad; dorsum divided into subquadrate areas; some tubercles, particularly the larger ones, in definite arrangement.
Anterior raised rim of the posterior subsegments confined to the lateral carinae, not extending across the middle of the dorsum. . . . . . . . . . . . . . . . . . . . . . . . . . . semiseptus Loomis
Anterior raised rim continuous across the lateral carinae and the middle of the dorsum.
First segment with posterior margin almost straight for its entire length; quadrate areas of the dorsum each containing a single tubercle which is of large size. . . . . . . . parvior Chamberlin
First segment with the posterior margin transverse at middle and oblique on each side; quadrate areas of the dorsum with small tubercles in addition to the usual larger ones. . . . . . . .

Males with the sternum of segment $S$ furnished with a pair of hairy tubercles in front; females with the ventral crest of segment 3 tri-lobed. . . . . . . . . . . . . . . . . . . . . . . . . . rincenti (Pocock)
Males without hairy tubercles on the eighth sternum; females with the ventral crest of segment 3 bilobed or simple
Size small, from 5 to 7 mm . ; dorsal tubercles strongly elevated sculpturatus Loomis
Size larger, at least 10 mm . long; dorsal tubercles not strongly elevated Size large, from 16 to 19 mm . long .
haitiensis Chamberlin
Size intermediate, from 10 to 13 mm . long
Head with the vertex continuous with the front, scarcely inflated, finely granular, median furrow faint; last segment without a large truncated median lobe hiding the papillose apex from above. . . . . . . . . . . . . . . . . . . . . . . . . . . cubensis new species
Head with the vertex strongly inflated and separated from the front by a distinct channel, surface coarsely granular; last segment with a large truncated median lobe obscuring the papillose apex from above.
Lateral carinae nearly horizontal; females with the ventral crest of segment 3 rising to an acute point at middle.
grenadae Chamberlin
Lateral carinae obliquely descending; females with the ventral crest of segment 3 of uniform height for a considerable distance at middle. . . . . . . . . . . . . . . . . . . . . . trinidadensis Chamberlin

## Docodesmus cubensis new species

A complete female and another with head and first five segments missing found in bottle of millipeds collected with a Berlese funnel from "Forest floor," Soledad, Cuba, July 1932 by M. Bates and G. B. Fairchild.

Diagnosis. In the present genus a large median lobe and two large lateral lobes on each side of the last segment are found in one group of species, while the remaining species have little or no median lobe and small lateral lobes. D. cubensis falls within the latter gronp and may be distinguished from the other members by the pair of very large dorsal tubercles on the last segment, and the size and proportions of the body.

Description. Length 11 mm ., width 2.5 mm . Body strongly convex, lateral carinae projecting outward a moderate distance and de-
scending obliquely throughout at about the same angle as those of D. trinidadensis, with which the species was directly compared.

Head with the median furrow of the vertex scarcely evident; surface on either side not much inflated and finely granular; vertex joining the front without interruption, the latter transversely rugose; clypeal area inflated, raised above the level of the front, smooth and shining.

First segment of the usual shape, the posterior margin oblique on each side; anterior marginal areas longer than those in $D$. trimidadensis; median surface divided into irregularly quadrate areas by faint depressed furrows, each area containing a rather large tubercle and several smaller ones.

Ensuing segments with the dorsum divided into quadrate areas, and sculptured in the same fashion as segment 1; posterior corners of the lateral carinae right angled to segment 10 or 11 (Fig. 13), behind which the corners gradually are acutely produced backward; anterior margin of the posterior subsegments with a fine, continuous or slightly undulated, raised rim extending across the dorsum to near the anterior corner of each carina; quadrate areas along the posterior margin of the segments about as broad as long; pores conspicuous and in normal arrangement.

Penultimate segment with the carinae moderately produced, reaching opposite the apex of the last segment, the posterior corners rather sharply rounded, not acutely angled; carinae widely separated, the margin between them with four slightly projecting scallops (Fig. 14).

Last segment small, the papillate apex exposed above, as there is no median lobe of the posterior margin; lateral lobes small; dorsum with two relatively large conic tubercles extending caudad nearly opposite the apex of the papillate terminal cone.

Preanal scale definitely triangular, the two setose tubercles small and quite close together.

Females with the transverse crest on the ventral side of segment 3 strongly elevated, scarcely rolled or bent backward, the median portion of uniform height for a long distance.

## Docodesmus grenadae Chamberlin

Bull. Mus. Comp. Zoöl., 62, p. 218-219, 1918.
Three paratype females of this species, from the Museum of Comparative Zoölogy, have been examined. The largest is 13 mm . long and not quite 3 mm . wide. The dorsum is strongly convex; the lateral
carinae project farther from the side of the body and are more horizontal than in D. cubensis; the outer margin of the carinae is rather short, the posterior corner rounded on the segments to near the back end of the body (Fig. 15). Raised rim along the anterior margin of the posterior subsegments thick and definitely interrupted or cut into erect crenations.

Penultimate and last segment shown in figure 16 .
The last segment has two medium sized, subapical, dorsal tubercles which do not exceed the posterior margin; each lateral margin bears two lobes of which the posterior is much the largest; apical margin developed into a broad, truncated, lobe, beneath which the papillate apical cone is completely concealed from above.

Ventral crest of the third segment of the females rises gradually from each side to an acute apex at the middle.
Docodesmus trinidadensis and D. grenadac are very closely related species. D. trinidadensis has the vertex of the head slightly more coarsely granular and the lateral carinae descend more than in $D$. grenadac, which has the carinae nearly horizontal; the crest beneath segment 3 of the females is of even height throughout most of its length whereas in $D$. grenadac it rises from either side to an acute apex at the middle of the borly.

From Pocock's description, it is evident that $D$. vincenti is closely related to the two preceding species, as the last segment has a large median lobe and the vertex of the head is roughly granular. However, the ventral crest of segment 3 of the females is said to be trilobed, a condition not found in any of the other species but possibly approached in D. sculpturatus which has a bilobed crest, each outer angle of the crest being elevated above the median portion. A further unique character of $D$. vincent is the pair of hair-tipped tubercles on the sternum of segment $S$ of the males, and there is a similar tubercle on each cosa of the front legs of this segment. No collection of $D$. vincenti has been reported since the original discovery of the species.

## Family STIODESMIDAE

Heteropente planifrons Loomis
Bull. Mus. Comp. Zoöl., 75, pp. 360-361, 1933.
A mature female 5.5 mm . long and 1 mm . wide, and a very immature specimen, collected with a Berlese funnel from "Forest floor," Soledad, Cuba, July 1932 by M. Bates and G. B. Fairchild.

The mature female is somewhat smaller than the male on which the genus and species was founded, and there are several other points of slight difference which possibly may be ascribed to variation within the species or to peculiarities of the sex. Suites of specimens containing both sexes should be collected at Jatibonico, the genotype locality, or at Soledad, to allow decision as to whether one or two species are involved. For the present it seems best to assume but one species.

The female has the two inner rows of tubercles raised into higher ridges on all segments than in the male, and these ridges, on segments 2 and 3, are even higher than on ensuing segments and the tubercles of which they are composed are fused together and indistinct; the anterior margin of the segments, between the two inner rows of tubercles, has two forwardly produced lobes separated by a deep sinus.

## Family CYRTODESMIDAE Cook, 1896

## Cyliocirtus Cook

Proc. U. S. Nat. Mus., 21, pp. 458-459, Nov. 19, 1898. Syn. Trigonostylus Brolemann, Ann. Soc. Ent. Fr., 67, p. 273, Dec., 1898.

Comparison of the description and specimens of Cyliocyrtus with Brolemann's description of Trigonostylus shows that only one genus is involved, hence the older name stands. Furthermore, Brolemann was in error in using the new name, Trigonostylus, for a group of species which he divided into two subgenera, one of which was founded on a new species of Crypturodesmus, a genus proposed by Silvestri in 1897. The inclusion of this species as a subgeneric type should have forced the use of Crypturodesmus as the generic designation, with Trigonostylus ranking as only a subgenus, although it is evident that Brolemann's two subgenera should have been recognized as separate genera, for one falls in Silvestri's family Crypturodesmidae, and the other in Cook's Cyrtodesmidac.

The two species of Cyliocyrtus which Brolemann placed in the subgenus Trigonostylus appear to be distinct from C. asper (Peters) and C. ocreatus Loomis.

